CEN-CENELEC GUIDE 32

Guide for addressing climate change adaptation in standards

Edition 2, 2026-04

CEN and CENELEC decided to adopt this new CEN-CENELEC Guide 32 through CEN/BT C018/2026 and D183/C002 respectively.

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European foreword

The European Union Strategy on Adaptation to Climate Change [COM(2013) 216 final] identified standards as an effective instrument for improving the climate resilience of infrastructures across Europe. This resulted in the Standardization Request (Mandate M/526) addressed to the European Standardization Organizations (ESOs) in support of implementation of the EU Strategy on Adaptation to Climate Change [COM (2014) 3451 final] issued by the European Commission (EC). Part of the work identified under this mandate includes the drafting, testing and issuing of a guidance document designed specifically for Technical Committees of CEN-CENELEC infrastructure standards. The resultant guide was published in 2022 ("Tailored Guidance for Standardization Technical Committees: How to include Adaptation to Climate Change (ACC) in European Infrastructure Standards").

It was decided by the CEN-CLC/COG *Mitigation and Adaptation to Climate Change* that CEN-CENELEC Guide 32 "Guide for addressing climate change adaptation in standards" (Edition 1, 2016-04), and the "Tailored Guidance for Standardization Technical Committees: How to include Adaptation to Climate Change (ACC) in European Infrastructure Standards", should be combined into one single document in order to streamline where Technical Committees (TCs) can find supporting materials.

Edition 2 of CEN-CENELEC Guide 32 therefore merges both documents into a single, actionable framework for integrating climate resilience into European standardization deliverables. This harmonized document resolves contradictions and enhances usability for TCs across sectors.

This document has been prepared by the CEN-CLC/COG *Mitigation and Adaptation to Climate Change* (COG Climate). The COG Climate requests feedback on the applicability of the guide in order to continuously improve it.

European standardization deliverables on climate change adaptation are published by CEN/TC 467 *Climate Change*.

CEN and CENELEC proudly endorse the ISO London Declaration, reinforcing their commitment to integrating climate considerations into standardization efforts aligned with the Paris Agreement and UN Sustainable Development Goals (UN SDGs). The CEN Guide 32 plays a vital role in this endeavour, providing a framework to ensure European Standards actively contribute to climate action and sustainable development, in harmony with international objectives.

Introduction

This document intends to support Technical Committees (TCs) in considering the impacts of a changing climate when drafting, revising or updating European standardization deliverables. It reflects lessons learned from the implementation of the first edition of CEN-CENELEC Guide 32 and incorporates content from the supplementary document, “Tailored Guidance for Standardization Technical Committees: How to include Adaptation to Climate Change (ACC) in European Infrastructure Standards”.

Climate change is already altering weather patterns, increasing the frequency and severity of extreme events and driving long-term shifts such as sea level rise, higher temperatures and changing precipitation. These changes affect how infrastructure, products and services perform over time and create new risks for safety, reliability and continuity of operation. European and international initiatives on climate action have highlighted standardization as a practical lever to manage these risks, support resilience and enable consistent responses across sectors and countries. This guide forms part of that wider programme of work and is intended to help standards developers identify when climate change is relevant to their deliverables, understand what types of information they may need, and apply a clear, stepwise approach to integrating adaptation into new and revised standards.

1 Scope

This document provides guidance on how and when to address adaptation to climate change in European standardization deliverables. It helps TCs to recognize when climate change or extreme weather may affect a standardization deliverable over its lifespan, understand when new or updated climate and weather data are needed, and incorporate adaptive and flexible solutions into standardization deliverables. This document is applicable to infrastructure, product and service standards. It provides a structured and practical framework to write, review and update standards in light of changing climate conditions.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at https://www.electropedia.org/

3.1
climate
statistical description of weather in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years

Note 1 to entry: The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization.

Note 2 to entry: The relevant quantities are most often near-surface variables such as temperature, precipitation and wind.

[SOURCE: ISO 14090:2019, definition 3.4]

3.2
weather
physical state of the atmosphere at a particular time or in an even short period of time at a specific location

Note 1 to entry: Weather is characterized using quantifiable parameters. These parameters are fundamental variables of the weather (weather elements) such as temperature, humidity, air pressure, wind direction and wind speed, cloud cover, precipitation and visibility. Weather and climate are not the same thing. ‘Climate’ refers to the average weather over decades (usually 30 years or more). Climate change also causes impacts that are not normally understood as “weather”, such as sea level rise, subsidence, rises in water temperature, fluvial flooding, ocean acidification, etc.

3.3
climate change
change in climate that persists for an extended period, typically decades or longer

Note 1 to entry: Climate change can be identified by such means as statistical tests (e.g. on changes in the mean, variability).

Note 2 to entry: Climate change might be due to natural processes, internal to the climate change models, or external forcings such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use.

[SOURCE: ISO 14090:2019, definition 3.5]

3.4
adaptation to climate change (ACC)
climate change adaptation
process of adjustment to actual or expected climate and its effects

Note 1 to entry: In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities.

Note 2 to entry: In some natural systems, human intervention can facilitate adjustment to expected climate and its effects.

[SOURCE: ISO 14090:2019, definition 3.1]

3.5
infrastructure
set of interacting or interdependent structural elements (system) that provide basic physical and organizational structures needed for the functional operation of society, enterprise or the services and facilities necessary for an economy

Note 1 to entry: These vital functions include buildings and are generally ensured by products, systems and processes that are often subject of standardization deliverables.

Note 2 to entry: As examples of a functional operation of society and economy, demands can include the following: basic supply (e.g. production, storage and distribution of water, food, energy, and products), habitation, communication, finance, health including emergency service and public administration including civil protection and public security.

3.6
risk
effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected. It can be positive, negative or both. An effect can arise as a result of a response, or failure to respond, to an opportunity or to a threat related to objectives.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

[SOURCE: ISO 14091:2021, definition 3.2.10, modified — Note 1 to entry has been modified. Notes 3 and 4 to entry have been deleted.]

3.7
threshold
level of magnitude of a climate variable (e.g. temperature) at which an effect or impact occurs

3.8
vulnerability
propensity or predisposition to be adversely affected

Note 1 to entry: Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

[SOURCE: ISO 14090:2019, definition 3.15]

3.9
hazard
circumstance or situation where life, health, property, infrastructure, livelihoods, service provision or environmental resources are threatened

3.10
impact
effect on natural and human systems

Note 1 to entry: In the context of climate change, the term "impact" is used primarily to refer to the effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate change or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts and sea level rise, are a subset of impacts called "physical impacts".

[SOURCE: ISO 14090:2019, definition 3.8]

3.11
resilience
capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation

[SOURCE: ISO 14080:2018, definition 3.1.3.6]

3.12
life cycle
consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal

Note 1 to entry: The life cycle stages include acquisition of raw materials, design, production, transportation/ delivery, use, end-of-life treatment and final disposal.

[SOURCE: ISO 14001:2015, definition 3.3.3]

3.13
product standard
standard that specifies requirements to be fulfilled by a product or a group of products, to establish its fitness for purpose

Note 1 to entry: A product standard may include in addition to the fitness for purpose requirements, directly or by reference, aspects such as terminology, sampling, testing, packaging and labelling and, sometimes, processing requirements.

Note 2 to entry: A product standard can be either complete or not, according to whether it specifies all or only a part of the necessary requirements. In this respect, one may differentiate between standards such as dimensional, material, and technical delivery standards.

[SOURCE: EN 45020:2006, definition 5.4]

3.14
service standard
standard that specifies requirements to be fulfilled by a service, to establish its fitness for purpose

Note 1 to entry: Service standards may be prepared in fields such as laundering, hotel-keeping, transport, car-servicing, telecommunications, insurance, banking, trading.

[SOURCE: EN 45020:2006, definition 5.6]

4 Approach for integrating climate change adaptation provisions in standards

4.1 General

This clause introduces the general approach for incorporating climate change adaptation into European standards deliverables. TCs should consider climate change at all stages of the life cycle of the infrastructure, product or service it is targeting. TCs should identify points at which climatic conditions (e.g. temperature, precipitation, wind speed) could exceed the design assumptions of the standardization deliverable.

Even though this guide focuses on adaptation to climate change, adaptation actions will take place alongside efforts to reduce greenhouse gas emissions and transition to a low-carbon economy. Standards users should therefore consider how mitigation measures and decarbonization pathways might change the context in which infrastructure, products and services operate, whilst recognizing that all such measures will still need to perform reliably under a changing and increasingly uncertain climate.

4.2 Life cycle thinking

A life cycle approach to evaluate the impacts of a changing climate on a standardization deliverable should be adopted. The life cycle stages in Figure 1 are used for illustrative purposes, for instance life cycles can also be circular (e.g. cradle to cradle).

Life cycle thinking focuses on the impacts of a product or process internally from creation to disposal. Life cycle thinking should include considerations of supply chain dependencies and potential disruptions due to climate-related risks.

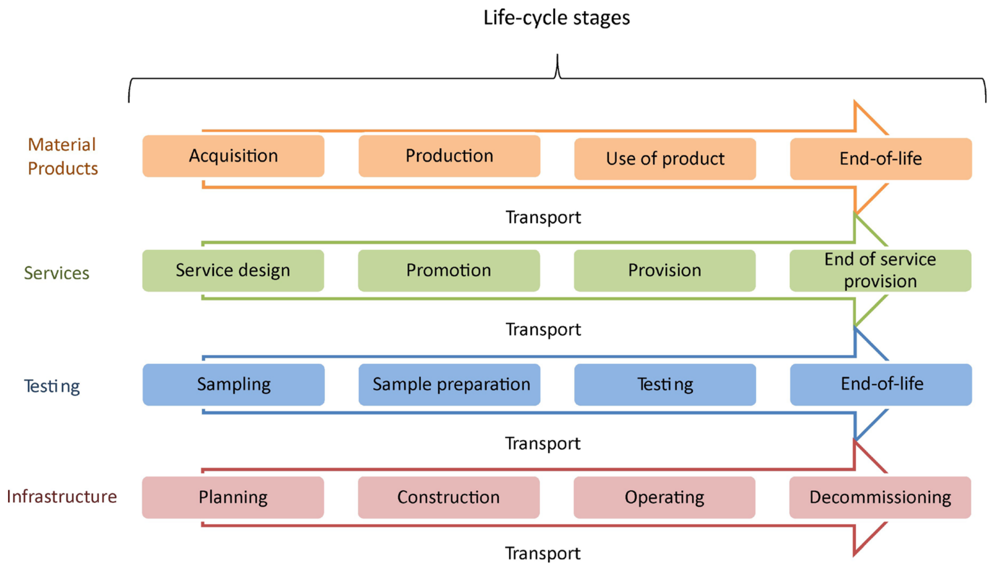

Figure 1 — Life cycle stages

Figure 2 gives an overview of climate drivers, secondary effects, and their potential impacts across life cycle stages.

Climate drivers
Annual / seasonal / monthly average (air) temperature Extreme (air) temperature (frequency and magnitude) Annual / seasonal / monthly average precipitation Extreme precipitation (frequency and magnitude) Average wind speed Maximum wind speed Humidity Solar radiation

Secondary effects/ climate related drivers
Sea level rise (SLR) (plus local land movements) Sea/ water temperatures Water availability Storm (tracks and intensity) including storm surge Flood Ocean pH Dust storms Coastal erosion Soil erosion Soil salinity Wild fire Air quality Ground instability/ landslides/ avalanche Urban heat island effect Growing season length Icy conditions/ ground frost Thawing of permafrost

Impacts
Physical damage Loss of access Behaviour change Health effects Social change

Consequences	Life cycle stages			
	1	2	3	4
Changes to prices and availability of inputs	X	X		
Disruption to supply of raw materials	X	X		
Changes in demand		X		
Changes in user requirements			X	
Effects on quality/ performance			X	
Effects on chemical or mechanical processes			X	X
Transport disruption	X	X	X	X

Figure 2 — Examples of climate drivers, impacts and consequences for life cycle stages

4.3 Variations between approaches to product, service and infrastructure standards

Climate change adaptation can be addressed in different ways depending on the type of standard (e.g. product, service or infrastructure standard). TCs should tailor climate risk and resilience approaches to the context of each standardization deliverable (e.g. EN, CEN/TS).

EXAMPLE For infrastructure with long operational lifespans, standardization deliverables could focus on documentation and updating practices. Such standardization deliverables could require multi-hazard modelling. Product standards could emphasize physical testing under simulated future conditions.

Standardization deliverables focused on infrastructures, products and services can differ in their:

— risk profile;

— resilience options; and

— validation.

4.3.1 Risk profile

Risk considerations differ across standard types. The following distinctions can support TCs in drafting relevant provisions.

Infrastructure, Product or Service Standard

— *Systemic interdependencies*: Risk assessment focuses on cascading failures across interconnected systems (e.g. power grids, transport networks, value chains, supply chains and service delivery options). Metrics prioritize redundancy thresholds and failure propagation rates.

— *Environmental stressors*: Resilience is measured against climate-related hazards (e.g. flood resilience for bridges) and long-term degradation.

— *Future and changing risks*: Risk assessment considers how the risk landscape could change in the future over the lifespan of the standardization deliverable.

Infrastructure and Product Standard

— *Technical hazard granularity*: Risks are quantified through severity-probability matrices for specific hazards (e.g. electrical shock, mechanical failure).

— *Life cycle exposure*: Assessments account for cumulative wear, maintenance gaps and end-of-life disposal risks. Life cycle exposure is particularly important for infrastructure and product standards, but it should not be dismissed in other types of standards.

Service Standard

— *Operational continuity*: Risks are measured by downtime tolerance and recovery time objectives (e.g. emergency response systems).

— *Human interaction variables*: Focus on error-prone scenarios during service delivery (e.g. misinterpretation of safety instructions).

4.3.2 Resilience options

Resilience options differ across standard types. The following distinctions can support TCs in drafting relevant provisions.

Infrastructure Standard

— *Physical redundancy*: Mandates duplicate critical components (e.g. backup power lines) to withstand single-point failures.

— *Adaptive capacity*: Designs incorporate modularity for future upgrades (e.g. sewer systems accommodating population growth).

Product Standard

— *Inherent safety integration*: Prioritizing hazard elimination (e.g. insulated circuits) over procedural controls.

— *Fail-safe mechanisms*: Features like automatic shutdowns during overloads are standardized.

Service Standard

— *Procedural flexibility*: Resilience is embedded through adaptable protocols (e.g. alternative communication channels during outages).

— *Training rigor*: Regular drills ensure personnel can manage atypical scenarios (e.g. early warning systems).

4.3.3 Validation

Validation methods differ across standard types. The following distinctions can support TCs in drafting relevant provisions.

Infrastructure Standard

— *Stress-testing against multi-hazard scenarios*: Validates performance under combined stressors (e.g. wind speed and water level).

— *Long-term degradation assessment*: Uses accelerated aging tests for materials (e.g. corrosion resistance in coastal structures).

Product Standard

— *Prototype failure analysis*: Tests identify weaknesses in design iterations (e.g. thermal stress tests).

— *Compliance certification*: Requires third-party verification against safety standards (e.g. CE marking).

Service Standard

— *Scenario simulation*: Live exercises test response to rare but high-impact events (e.g. pandemic surge capacity).

— *Real-time monitoring*: Automated systems track performance metrics (e.g. network latency in emergency communications).

5 Four-step approach for Technical Committees

5.1 General

This document introduces a four-step approach (see Figure 3) to help TCs integrate climate change adaptation considerations into their standardization deliverables. Step one supports TCs in screening a standardization deliverable to determine whether adaptation to climate change is relevant and necessary.

If climate change adaptation is found to be relevant, Steps 2 to 4 guide TCs through:

— identifying which parts of their standardization deliverable might need to be updated because of a changing climate;

— understanding which climate change information is relevant as well as reliable and navigating the different sources of climate change information;

— assessing how and when to update a standardization deliverable;

— determining how to proceed as new information becomes available in the future.

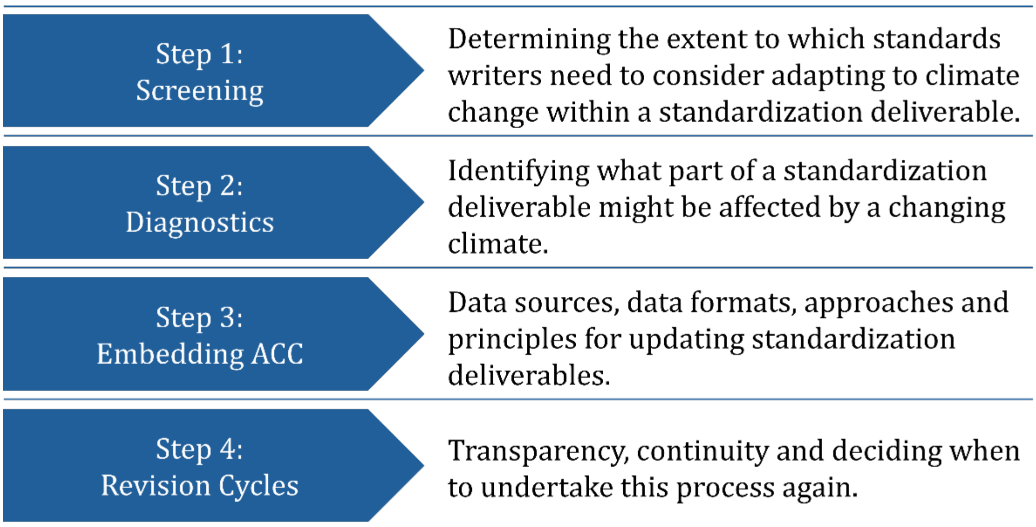

Figure 3 — Four-step approach

5.2 Screening

Step 1: Screening	Determining the extent to which standards writers need to consider adapting to climate change within a standardization deliverable.

If a standardization deliverable specifies climatic conditions or parameters, these should be reviewed. Long-lived infrastructure and products, typically >20 years, are more exposed to climate change impacts over their lifespan. Particular attention should be given to these elements during screening.

TCs should examine the normative reference when assessing the potential impact of a standardization deliverable on the delivery of other standardization deliverables. Additionally, they should utilize liaisons with other TCs to facilitate this evaluation.

Table 1 can be used to support screening. A ‘Yes’ to any item indicates that adaptation to climate change should be considered.

Table 1 — Questionnaire

Yes	No	Question
		Is the standardization deliverable dependent on climatic conditions and/or vulnerable to risks from extreme weather or impacts in a changing climate? EXAMPLE Climatic conditions are for instance temperature, wind speed and precipitation. NOTE 1 Extreme weather refers to unusually severe or rare weather events like storms, floods, droughts or heatwaves, which may occur due to natural climate variability or as a result of climate change. Climate change impacts are broader and include long-term shifts in weather patterns, rising temperatures, sea level rise and increased frequency and severity of extreme weather, all driven by human influence on the global climate. NOTE 2 The European Environment Agency (EEA) provides a comprehensive and authoritative list of climate impacts across European sectors, organized into 36 major risks within five clusters: ecosystems, food, health, infrastructure, and economy and finance, via the European Climate Risk Assessment (EUCRA) report.
		Does the standardization deliverable address supply chain vulnerability to extreme weather or impacts in a changing climate? EXAMPLE Weather and climate change impacts to the supply chain can disrupt logistics, material shortages, or risks to critical goods and services.
		Can changes (additions/modifications) to the standardization deliverable reduce the identified vulnerabilities?

Upon completing this step, TCs should document the:

— outcome of the screening,

— sources of information consulted,

— rationale for taking or not taking further action.

5.3 Diagnostics

Step 2: Diagnostics	Identifying what part of a standardization deliverable might be affected by a changing climate.

This step assists TCs in identifying which parts of a standardization deliverable may be affected by a changing climate. TCs should therefore compile the climate change and weather sensitive elements within a standardization deliverable. Relevant climate considerations include both extreme weather events and long-term shifts in climatic conditions. Where feasible, this should include the associated thresholds at which performance, safety or functionality could be compromised. Information should be retained as part of standard's development to support transparency and continuity between revision cycles. Efforts should be made to ensure traceability of decisions, particularly in light of evolving climate-related information.

Standardization deliverables with a short or medium lifespan should be updated regularly to incorporate the latest historical weather datasets. These updates also support standardization deliverables where the subject matter has a longer lifespan and that depend on them.

For long lifespan standardization deliverable, TCs should assess future climate conditions. In infrastructure and product standards, life expectancy can be longer than design life. The longer of the two should be considered when assessing climate relevance.

TCs should:

— consider and document if future climate conditions and extreme weather could impact the performance of specific parts of the standardization deliverable throughout its expected lifespan,

— discuss and document known instances where climate conditions or extreme weather have negatively affected the standardization deliverable,

— consider and document whether combined hazards are relevant, including situations where multiple climate-related hazards act together or in sequence to increase overall risk.

EXAMPLES Combined hazards can include:

— intense rainfall following a drought, leading to rapid runoff, reduced soil infiltration and increased erosion or surface flooding;

— prolonged high temperatures combined with high humidity, increasing the risk of material degradation, overheating of equipment and reduced performance of cooling or ventilation systems;

— combined thermal and moisture cycling, where repeated exposure to high temperatures and high humidity accelerates wear, corrosion or fatigue in products and components over their service life.

5.4 Embedding adaptation to climate change (ACC)

Step 3: Embedding ACC	Data sources, data formats, approaches and principles for updating standardization deliverables.

Data sources

Future climate information is commonly provided in the form of climate projections based on different emissions and socio-economic scenarios. These climate projections include uncertainty and are usually presented as a range of possible outcomes. TCs should identify which climate variables are relevant to the standardization deliverable and use nationally or regionally recommended datasets where future climate information is required.

NOTE Future climate information comes from computer models that simulate how the climate might change under different assumptions about greenhouse gas emissions and socio-economic development. These models produce climate projections that show possible future changes in variables such as temperature and rainfall for different time periods and locations, often shown as maps, graphs or tables. Because they are based on models, these projections always include uncertainty. To understand this, many model outputs are combined in an ensemble, and the results are usually given as a range rather than a single value. Global Climate Models describe future climate at the global scale. Regional Climate Models provide more detailed information for specific regions at a finer spatial resolution, which helps to capture mountains, coastlines and regional weather patterns more accurately. In some cases, further downscaling techniques are used to provide even more detailed local information.

Advice on where an organization can source past, present and future information about the climate can be found at national and international climate data centers (e.g. national regulatory authorities, state and local agencies, universities, national weather service providers).

Information may also be obtained from other sources such as scientific reports, relevant climate change impact assessments, governmental and intergovernmental publications and databases.

Sources used in the standardization process should be documented, including criteria for selection. Advice on the use, utility and relevance of data and information sources should be made by competent persons or organizations, either internal or external to the TC.

EXAMPLE Competent organizations include national meteorological and hydrological services, academic institutions, and recognized international bodies such as the World Meteorological Organization (WMO).

Annex A provides an overview of organizations per European country for climate change information.

EXAMPLE The following tools are valuable and reliable source of Pan-European climate data:

— Climate Data Store of the Copernicus Climate Change Services (C3S);

— European Climate Data Explorer of the European Climate Adaptation Platform Climate-ADAPT.

Data format

TCs should be aware that due to the large amount of climate data produced by computer models the raw model data is usually given in binary format (e.g. GRIB or netCDF). These formats are international standards used by meteorological services to handle large climate datasets.

Adaptive design

Climate-related risks are changing rapidly. Standardization deliverables should, where possible, support adaptive solutions rather than locking outcomes into designs that can become out-of-date. TCs should build resilience in from the outset.

TCs should consider:

— enabling future adjustments or upgrades (e.g. modular upgrades or redundancy); and

— avoiding overly prescriptive requirements where adaptive solutions may be needed.

Decision support principles

The following principles, adapted from ISO Guide 84:2020, may support decision-making on how to embed climate adaptation into a standardization deliverable:

— *There is no one-size-fits-all solution*: There is no single approach suitable for all standardization deliverables; TCs should adopt methods suited to specific standardization deliverables.

— *Learn from existing experience within the standardization system*: Where national mirror committees or NSBs have already developed relevant content or addressed comparable climate-related challenges, this experience should be drawn.

— *Adopt integrated approaches*: Adaptation components should be incorporated into the core steps and practices of the standardization deliverable.

— *Provide meaningful guidance for localized interpretation by standards users*: Where local interpretation by users is required, a standardization deliverable should specify which elements are impacted.

— *Prioritize the most vulnerable*: Attention should be given to vulnerable systems, locations or populations affected by the standardization deliverable.

— *Use best-available science*: Adaptation measures in a standardization deliverable should be informed by the best available science and data.

— *Apply nature based solutions, including ecosystem based approaches*: Where relevant, a standardization deliverable should promote measures that strengthen ecosystem resilience and safeguard critical ecosystem services.

— *Maximize mutual benefits*: Opportunities to align with wider climate or environmental objectives, such as emissions reduction or disaster preparedness, should be noted.

— *Use adaptive designs*: Adaptive designs should be encouraged where practical, to allow for adjustments during the service life of the infrastructure, product or service.

Upon completing this step, TCs should document the:

— data sources used as well as their selection process; and

— any applied decision support principles.

5.5 Revision cycles

Step 4: Revision Cycles	Transparency, continuity and deciding when to undertake this process again.

Climate change science, data and technologies continue to evolve. To ensure standardization deliverables remain relevant and resilient, approaches to climate change adaptation should be flexible.

Where changes have already been made to a standardization deliverable following the application of this guide, further updates are likely to be required in future editions.

Climate resilience of a standardization deliverable should be reviewed at every systematic review by applying steps 2 to 4 of this guide.

The rationales and decisions made by TCs based on the application of this guide should be documented for the benefit of future revision cycles.

Annex A
(informative)

Online climate change data sources per European country

Table 2 — Sources per European country

Country	**Organization**
Austria	GeoSphere Austria, Climate Change Center Austria (CCCA)
Belgium	Royal Meteorological Institute of Belgium (RMI), Klimaatportaal Vlaanderen
Bulgaria	National Institute of Meteology and Hydrology
Croatia	Croatian Meteorological and Hydrological Service (DHMZ)
Cyprus	Department of Meteorology
Czechia	Czech Hydrometeorological Institute
Denmark	Danish Meteorological Institute – Klimaatlas
Estonia	Estonian Meteorological and Hydrological Institute
Finland	Finnish Meteorological Institute
France	Météo-France – Climadiag
Germany	Deutscher Wetterdienst, KLiVO-Portal
Greece	Hellenic National Meteorological Service
Hungary	Hungarian Meteorological Service
Iceland	Icelandic Meteorological Office
Ireland	Irish Meteorological Office
Italy	ItaliaMeteo Agency, Italian Air Force- Department of Meteorology
Latvia	Latvian Environment, Geology and Meteorology Centre
Lithuania	Lithuanian Hydrometeorological Service
Luxembourg	Air Navigation Administration (ANA), Meteolux
Malta	Meteorological Office
Netherlands	Netherlands Meteorological Institute – Klimaat van Nederland
Norway	Norwegian Meteorological Institute, Norsk Klimaservicecenter
Poland	Institute of Meteorology and Water Management

Portugal	Instituto Português do Mar e da Atmosfera
North Macedonia	HydroMeteorological Service of Republic of North Macedonia
Romania	National Meteorological Administration
Serbia	Republic Hydrometeorological Service of Serbia
Slovakia	Slovak Hydrometeorological Institute
Slovenia	Slovenian Environment Agency
Spain	Agencia Estatal de Meteorología
Sweden	Swedish Meteorological and Hydrological Institute (SMHI)
Switzerland	National Center for Climate Services – projection at local level (canton)
Türkiye	Turkish State Meteorological Service
United Kingdom	Met Office

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EN ISO 14091, *Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment (ISO 14091)*

CEN/TR 18365,[1] *Adaptation to climate change — Guidelines on using climate data in infrastructure standards*

[1] Under preparation. Stage at the time of publication: FprCEN/TR 18365:2026.